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# DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

# A Psychiatric, E. E. G. and Psychological Study of Lobotomy In Chronic Schizophrenia

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Pre-frontal lobotomy, one of the latest therapeutic measures in the treatment of severe chronic psychotic patients, is the method employed to treat a group of acutely disturbed patients that were ill for at least three years, that failed to achieve any sustained improvement following at least two courses of either insulin or electric convulsive therapy or both, and hence were selected for this type of therapy. We should familiarize ourselves with all the changes that occur as a result of this treatment both in the patient and in the type of his mental illness. This requires a careful and detailed psychiatric pre-operative evaluation of each patient. A point of equal importance which we wish to emphasize is that therapy should not stop after surgery, but must be maintained for a prolonged period thereafter, and must always include all those who come in contact with the patient, especially his family. We must understand that these patients were ill prior to surgery and that this illness was only modified as a result of surgery. It is therefore vital to know what these modifications will be before one can successfully plan therapy or intelligently recommend surgery.

Since mental disorder is predominantly an individual illness and the dynamics are specific, we have stressed individuality in our study. Pre-operatively the patient in most cases fought the mental illness by himself. We must learn what happens to his ability to cope with his conflicts and to his ability to channel his anxieties and tension in a proper direction. Since the symptoms of mental illness result from a conflict between the patient's basic drives and environmental influences, we must study his basic drives and his reactions to environment before and after the surgery, also therapy must be directed toward a goal determined by the individual patient, by his illness and the changes that have been effected as a consequence of surgery.

Our object was to learn criteria by which a more accurate selection of patients could be made for pre-frontal lobotomy, and to learn a more suitable form of post-surgical therapy. We wished to study this method of treatment by means of examination of the data in the usual statistical manner and also as Dr. Kolb[1] suggested by understanding the dynamics involved in the causation of these cases of mental illness. There were 40 patients in the series which were under examination. However, there were two operative deaths in this series leaving the gross total of 38 who were studied for a period of one to three years with the average, being slightly under 17 months. All of the patients in this series carried a diagnosis of schizophrenia. According to types there were 20 paranoid, 11 catatonics, 3 hebephrenics and 4 unclassified. Post-operative results in these showed that 55 percent of

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the patients were still in the hospital at this time even though much improved, 16 percent of the group seemed to be adjusting well at home, 26 percent of the group showed no improvement whatsoever and 3 percent were considered to be worse than before operation. According to diagnosis, catatonics and paranoids showed the most improvement. The catatonics however showed an increase over the paranoids in the percentages of the relapses occurring following lobotomies. The hebephrenics and unclassified patients as a group did not show good results operatively.

Examined as to age groups we find that between the ages of 20 and 30 years there were 29 patients; between 30 and 40 years there were 9 patients and only a single patient in the 40 to 50 year age group. The degree of post lobotomy improvement does not appear to be related in any way to the age of the patient as shown by the finding in our series that the two oldest patients made a very considerable behavior improvement, even though it was necessary that they remain in the hospital. In this respect our results seem to verify Meyerson's statement that in the chronic schizophrenic only the behavior is modified.

| | *Prior to Surgery* | | *After Surgery* | |
|---|---|---|---|---|
| *Symptom* | No. of patients with symptoms | Percent marked improvement | Percent improved | Percent same |
| Assaultiveness | 27 | 78 | 18 | 4 |
| Hyperactivity | 19 | 52 | 26 | 22 |
| Suicidal or self-destructive | 16 | 81 | 7 | 12 |
| Hallucinations | 16 | 19 | 31 | 50 |
| Guilt feelings | 19 | 26 | 22 | 50 |
| Persecutory delusions | 10 | 10 | 40 | 50 |
| Grandiose delusions | 6 | 16 | 0 | 83 |
| Sexual conflict | 6 | 16 | 16 | 67 |
| Erratic behavior | 9 | 11 | 22 | 67 |
| Ambivalence towards mother | 16 | 12 | 7 | 81 |
| Hostility towards father figure | 10 | 30 | 20 | 50 |

An attempt was made to evaluate this series of cases according to the symptomology. In attempting this we were well aware of the many inaccuracies which would arise in listing the symptoms of patients because of the difficulties in eliciting responses from psychotics. From a behavioral aspect, our figures indicate that 71 percent of the patients appear to be improved following surgery notwithstanding the obvious retention of many severe psychologic conflicts. The behavior aspects which show the greatest change following lobotomy are those of assaultiveness, destructiveness either internalized or externalized, and generalized motor hyper-activity. Psychological symptoms which showed an improvement in 50 percent of the patients were usually those of hallucinations, delusions, and especially delusions of a persecutory nature, relief of guilt feelings and reduction of hostility toward parental figures. Similarly, approximately half of the patients were considered to be withdrawn from their environment while the other half were considered to be alert and in contact. A frequent symptom which showed no appreciable alteration post operatively was that of the grandiose delusion. Since a grandiose delusion is a wish fulfilling fantasy to compensate for feelings of inferiority or insecurity, and since surgery does not remove feelings of insecurity or feelings of inferiority, the symptoms will be unaffected.

A study of behavior revealed that it was in this field that the greatest demonstrable improvement was obtained. Since abnormal behavior is the last defect the patient acquires or adopts, it is the first to leave, as the patient improves. This can be, and frequently is accomplished, without material improvement of psychological symptoms. The desired goal of this treatment is of course to obtain a decrease in the abnormal psychological symptoms of the patient. Thus by observing the post lobotomy behavior of patients only, one will grossly exaggerate the degree of improvement resulting from this operation. A proper evaluation of the patient requires a study of his symptoms, his behavior and of his personality. The patient's behavior, which depends on his own peculiar personality, is his one way of obtaining gratification of a drive. The more abnormal the drive, the more abnormal is the behavior, as was illustrated by one of our hyperactive patients who attempted to attack his mother. This finally convinced her of her son's need for surgery. For a year after surgery, he continuously spoke of attacking some girl, but after two years of observation he was considered to be safe for

the open ward. Then he spoke only of a desire to kiss some girl and he was very polite and courteous to the female personnel on the ward. Socially acceptable behavior resulted from a less intense drive, which could be more easily gratified.

Some lobotomy patients became more dependent after operation which Frank[2] and others have labeled as a retrogressive or archaic change; they also showed a childlike tendency to cling. In the new situation reality was threatening, and when they failed to master it, they withdrew and relied on dependency for their security. According to Frank, a spontaneity and lack of initiative is thus not only a defect, but also a defense against the fearful experience of not being able to master reality. Associated with fear of the environment is hostility, and the understanding of hostile impulses in our patients is of great importance. We must determine whether the hostility is a reaction to the threatening environment, or is a prolongation of a formerly held feeling; and if it is a prolongation, then we must determine just what the alterations are, their pattern and in the resultant behavior.

It is imperative to keep in mind the observation of Freeman[3] and Watts that there is after surgery an isolated degeneration of the nucleus medialis dorsalis of the thalamus. Thus the active component of their hostility is less and they lose their repetitive aggressive or assaultive behavior. On the other hand some cases still showed aggressive and assaultive behavior after surgery. Pain from conflicts were less, but ego functions were greatly less efficient and less effective. Patients lacked the ability to cope with their abnormal drives. Some erected narrower defenses and became more rigid, some withdrew from reality, while others unable to restrain themselves, acted out part of their aggressiveness to decrease their anxiety.

Since reduced ego function allows anxiety more readily to rise and since the patient now has a reduced tolerance for anxiety, their method of acting out their aggressions is a more archaic and more impulsive mechanism than that seen previous to the lobotomy. Frank speaks of an aggressive tactlessness in which they don't consider others. Clinically we observe that slight stresses or frustrations evoke aggressive behavior. In some instances aggressive impulses are retained, but the force has withered, as the patient states, "I have the desire to hit the other patients but I can't seem to do it." Unfortunately the force sometimes returns.

Our figures show that 71 percent of the patients were improved after surgery, notwithstanding the retention of severe symptoms and with an increase of personality defects. The improvement is accomplished by a decrease of the affect which was bound to undesirable drives. These drives sometimes become more apparent after surgery for some reason as the drive became less intense, then energy became available for other functions. Pain or anxiety previously raised by the drives became less and consequently patient attempted to face reality and erect more acceptable defenses and sometimes reached the point of being able to verbalize them. Progress was noted where drives appeared to obtain gratification and if gratification was absent patient could bear frustration and delay gratification. Thus where the drives were intense, or frustrations or rejections were frequent or severe, the improvement was slow and relapses were frequent. Early in treatment, it was necessary to understand the drives, to sublimate or redirect them in a way satisfactory both to patient and to society.

As part of the study in behavior, we observed alterations in behavior and in attitude towards hospital personnel. Some patients became mute or inaccessible, some were hostile or fearful or suspicious. Since many were inaccessible, we did not succeed in obtaining the desired information. We observed that the deeper the inaccessibility the less the improvement. After surgery, those who spoke, were more at ease, were less circumstantial and were more dynamic in their approach to their problems even when they related to their earlier conflicts, which in some instances were revealed for the first time. It became apparent that less displacement, less projection of their fears and hostile feelings were now necessary, after the operation and also that better relations followed with hospital personnel. Since we were part of the threatening envi-

ronment, it became necessary for us to re-establish rapport. They reacted quickly when they were reassured that the therapist intended to remain friendly.

Of incidental importance was the attitude of the patients towards the surgery performed. One of them dramatically and pointedly explained the attitude by saying, "How would you like to have your head cut open?" The others denied or minimized the surgery in their attempt to compensate for feelings of inferiority following the surgery. This then only added to their long standing feelings of inferiority. Frank observed that they lacked an ability to comprehend the nature of the surgery. In addition, they sustained a loss of self-esteem, which was frightening to them in their new as well as threatening environment. They displaced some of their apprehensions for added intellectual functions and required frequent reassurances that they had retained their intellectual capacity.

Complications or undesired reactions were sometimes present. Two patients died, one of them failed to survive a second lobotomy and three developed convulsive seizures that were readily controlled with dilantin. Some patients became more timid and more fearful and as a result were more readily frightened. One patient regressed severely. Other unfavorable results were considered in the light of the failure of surgery rather than directly caused by surgery.

Psychological symptoms had a tendency to decrease in intensity rather than disappear or undergo any marked alteration. Hostility remained, less intense and therefore under control. The voices still made accusations, but failed to evoke the typical reactive behavior. As one patient explained, "they don't bother me, or I am used to them." Frank observed that before surgery the lions, in dreams, roared and threatened but afterwards were tame and walked away. Those with severe guilt, withdrew still more as they were less able to bear the load afterwards, especially if new guilt was forced upon them. We found that in our treatment of such patients we had to avoid correction, criticism, sarcasm, cynicism or open hostility. We have observed that reactivation of conflicts produced a relapse and also produced the same pattern of delusions or hallucinations as were seen previous to the surgery. One patient after a good home adjustment for a year, described on return in identical detail the bizarre sensations in his mouth, that were produced in the same manner; namely that his prostate was trying to come out of his mouth. We observed as did Wilson in England that after surgery delusions, hallucinations and gross defects in ideation were not materially reduced, and when reduction occurred it was late in showing up. Also frequently seen in these patients after operation, was a loss of interest and drives, an affective indifference and a loss of ethical and moral inhibitions.

Psychological studies were attempted to augment clinical observations. They showed that intelligence was not impaired, but that reasoning was distorted and judgment became faulty. A month after surgery, there was an average increase in I.Q. of four, and a year later there was an average increase of twelve. This compares with average increase of six in a year reported by Grassi.[5] Memory and knowledge was retained and since they form the basis for intelligence testing, our I.Q. report is to be expected. Lobotomy decreases distraction caused by affective turmoil and thus patients tested better after surgery. For the same reason the ability to learn was improved and for the same reasons patients learned to avoid impulse behavior.

Lobotomy did alter these patients' ability to correlate knowledge with reality, lessened speed of recall and decreased the ability to integrate what they recalled. Clinically this was observed as erratic behavior or poor judgment. One suicidal destructive patient, who was called a scatterbrain as a child, adjusted well on open ward in spite of a carefree aggressive attitude, his aggressions continued at home resulting in complete rejection by his family, and finally in his leaving the hospital against medical advice. He obtained money from his family, purchased a new car the day after discharge, refusing to take out liability insurance because it "cost money." The following day, he was in jail, because he drove past a red light and into the path of two opposing cars. He failed to understand that what he did was

wrong, although he admitted that it was against the law to pass a red light. He was still a scatterbrain.

In our follow-up studies, we were interested in the number of patients that improved, the reason for the improvement or lack of improvement and the causes for relapses. Our report of improvement compares with the study of twenty seven by Snow but not with the report by Wilson. He included patients who were sick less than two years, and he included manic-depressives who have a much better prognosis than schizophrenics with any form of therapy. Patients who have a good prognosis with conservative therapy also have a good prognosis with lobotomy.

There were fifteen patients, in our group, who improved sufficiently to warrant a trial at home. Eight failed to adjust to their home environment and were returned to the hospital. A ninth patient was arrested for an attempted robbery with a toy gun. In spite of long psychotic history the three county physicians and the judge considered him sane and sent him to the state prison. Following surgery, our patients had an average hospital stay of three and three fourths months. The average trial period at home was ten months.

Since these eight patients did well in the hospital, and social service reports did not note any serious obstacles or disturbances in their homes, what caused them to relapse. Kolb states that for a successful post-operative social adjustment a satisfactory family situation is of major importance. Freeman and Watts stress the need of avoiding disturbances to the patient. Frank said, "If a conscious or unconscious hostility prevails in relatives, such a rejection seals the fate of the schizophrenic." Aldrich[7] wrote, "The problems of social adjustment following lobotomy are of such magnitude, that a conservative approach to the selection of patients is indicated."

The problem of home adjustment is complicated by the fact that the patient has a new personality, has new defects, and retains many of his old defects although they appear different. Old conflicts still smoulder and new difficulties arise, namely, fear, insecurity, inferiority and sluggish reasoning. Therefore, tact is so essential. Improvement attained in the protected environment of a hospital, must be assumed to be superficial. Worthing et al[8] recommended that patients remain in the hospital after first achieving good results. A patient with fine open ward adjustment was delayed in discharge until his wife accepted him. She found it difficult to forgive and forget his pre-hospital behavior. Social service interviews with her and examples of his new personality convinced her to open her home to him again. He was discharged and his improvement continued as she increased her responsibility, acceptance and welcome towards him.

Another patient required a variation in understanding and approach. Prior to surgery he hated and feared his father and brother, after surgery he continued to be fearful and very insecure over a prolonged period. Psychological testing revealed strong sibling rivalry, feeling of castration, fear of rejection and fear of society. Since his feelings for his brothers were known, he was asked why he wanted a trial visit with one of them. His reply was a weak, "My brother said so." And he was happy when his request was denied. The brothers were domineering, aggressive individuals who believed in reprimand and in other forceful methods to speed the recovery of their passive, timid brother. It was necessary to retain him in the hospital until he mastered his fears and acquired some security and most of all acquired assertiveness.

Another patient presented a different approach in therapy. Before surgery he described his father as a bear with big clumsy paws, who was crushing the patient when he attempted to be affectionate, also described him as a Jesus with dirty feet. In addition to hostility towards his father he had an infantile psycho-sexual development. He spoke of not being able to marry his sister because she was engaged to his best friend. After surgery he described himself as being in an elevator that was out of control and coming down to crash. In displacing previous paternal hostile feelings to medical personnel, he accused the ward doctor of raping a female occupational therapist with whom patient had been very friendly. He

was thus free to boast of his father's capabilities and patient was encouraged to now become friendly with the father. Family relations improved but hospital behavior remained unchanged.

There was a group of patients, who failed to adjust at home or at the hospital because of maternal difficulties. Hostility was not a factor, but there was present either an over protective, narcissistic, neurotic, or a seductive type of mother. In a study of mothers of male schizophrenic patients, Prout and White[9] revealed that these women are frustrated and attempted to obtain gratification through their sons, at the sacrifice of proper emotional development for the son. One patient made a good-post operative adjustment and his mother demanded his release shortly after surgery. As he continued to make a good economic but poor social adjustment, his mother reported his progress and his efforts by phone. When she was reminded that she was pushing him too vigorously, her reply was, "Oh, my whole family are very active." After his return, on interview he revealed, "She didn't leave me alone, she treated me like a baby and tried to shove Christian Science down my throat." She frequently requested special interviews to learn how she could best snap her son out of his apathy and illness. Here again she failed to see the harm she created, but worked to dominate their entire situation. It was observed that, as he regressed, his hostility towards her faded and his dependency upon her increased.

The mother of lobotomy patients, who failed to recover from their hyperactivity and disturbed behavior, revealed this well-meant but severely mis-guided neurotic attitude and behavior. Frank states, "Lobotomy by the subsequent defensive hypercathexis and constriction of the egoboundary, enables the psychic apparatus in some cases to ward off the flooding id derivatives." These mothers continue the flood by restimulating the id derivatives and thus overwhelm the patient with the constricted egoboundary. Thus lobotomized patients, who have become more sensitive, more fearful, more insecure and at the same time are less able to synthetize, to correlate, are more easily disturbed by painful conflicts. They then return to established pattern of withdrawal into psychotic behavior.

After this consideration of the dynamics of these lobotomized schizophrenic patients we then ask just what did we do to the brain structure of these patients to effect these changes? The operations performed on these patients were the routine type as introduced by Egaz Monez in 1936 and later by Freeman and Watts. The principle of the operation being the severance of the fibre connections of the frontal association areas by inserting an instrument through a burr hole and cutting the fibres in a coronal plane. This operation was performed bi-laterally in all these cases hence we may suppose that the relief ef emotional tension in these patients resulted from separating the hypothalamus (which is rather widely considered to be the center of human intellectual ability and judgment about ethical matters, i.e., the patient's capacity of judging the future consequences of his actions.) The neuroanatomists tell us that these connections involve the thalamus; that is, fibers pass from the hypothalamus to the dorsomedial nucleus in the thalamus and hence to the frontal lobe center. Now animal experiments and some human cases according to Meyer Beck,[10] point to the orbital areas as being the recipient of most of these fibers, though a smaller group reaches the convexity of the frontal lobe. This anatomical consideration probably points to the cause of failure of some operations—i.e., if they do not cut deep enough they miss the larger group of fibers going to the orbital area, hence the patients frontal cortex is not protected from the overflow of pathological stimuli originating in the hypothalamus. Also secondary complications of these surgical procedures as hemorrhage and thrombosis will vary the response to the lobotomy.

An electroencephalographic study of these cases showed slow 2 to 3 per second high voltage waves from these partially cut off frontal lobe tips—but later after three months a normal rhythm reappeared. Our studies also showed as did those of M. Lennox and J. Cooledge[11] that the 12-14 per second sleep spindles disappeared in some cases in the frontal lobes after lobotomy. One case that gave quite a satisfactory post lob-

otomy clinical result was previous to operation a homicidal schizophrenic paranoid patient who showed a complete disappearance of sleep spindles in her record after the operation. One case that still showed these sleep spindles coming through after lobotomy, also showed no clinical improvement still showing a severe type of assaulting behavior.

As these sleep spindles are believed to originate in the nucleus centralis medialis of the thalamus it is assumed that in the first case the orbital and superior surfaces fiber connections with the thalamus were cut while in the second case it is likely that many of these fibers were intact. This suggests the possibility of doing deeper, more extensive lobotomies in these cases in which the first lobotomy does not cause the disappearance of the sleep spindles or give a good clinical result.

*Summary*

1. This study of 38 severe chronic schizophrenic patients who received lobotomy revealed that proper treatment consisted of a follow up of individualized therapy that is based on a dynamic approach.

2. Lobotomy decreased the affective component of conflicts ordinarily repressed by the patients resulting in greatly improved behavior, a decrease in psychological symptoms such as delusions, hallucinations, guilt feelings and hostility. Grandiose delusions were least improved.

3. A new personality appeared characterized by feelings of inferiority, a fear of environment, erratic behavior and judgment and a decrease in anxiety tolerance.

4. Adverse home influences often present a threat to achieving good results. In one of our cases a mother reawakened feelings of inferiority or guilt reprecipitated him into his former mental illness. Hence the period of hospitalization must be determined by a consideration of the severity of the patient's illness, as well as a consideration of how patient can tolerate the threats to his mental health that will be imposed on him by his home environment. If this is considered to be unsuitable it my be advisable to return the patient to the hospital in his improved condition.

5. Psychological studies show that after the initial period of confusion is over there was actually an increase in the average I.Q. of four at the end of one month and 12 at the end of a year.

6. It is felt that the results of lobotomy depend on the degree of completeness with which the connecting fibers going to the orbital surface and convexity of the frontal lobe are cut. In other words, results are good if the frontal areas or centers of intellectual ability are cut off from the control of the hypothalamus or center of emotions.

7. Electroencephalography may be used as a gauge to determine if the lobotomy has been far-reaching enough in its severance of the fiber tracts to the frontal lobe—if complete, the sleep spindles are abolished in this area. If they are present more extensive surgery is indicated.

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*Authors' Note:* The foregoing article is published with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans' Administration, who, however, assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

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# Newer Concept of Psychopathic Personalities

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For some time there has been a striving in clinical psychiatry to alter the old muddled concept of psychopathic personality in order to more clearly differentiate between the true psychopath and the pseudo-psychopath, with the purpose of furnishing an accurate therapeutic approach.

As long as empirical methods alone are used and nosology reigns supreme, evaluation on anything but a taxonomic basis would seem impossible. However, with a dynamic approach, utilizing those analytic concepts acceptable even to the anti-analysts, a solution is attainable. By "dynamic" we mean the concept that all normal and abnormal behavior is a process of organismic adaptation between physiologic needs on the one hand and "external circumstances" on the other. Using this concept we are forced to investigate deeply and searchingly, whereas counting out a sufficient number of symptoms to fill the requirements of a diagnosis is a sterile procedure.

The 1942 edition of the *Standard Nomenclature of Disease* lists psychopathic personality with several subheadings, giving the psychiatrist the choice of: a) pathological sexuality, b) pathological emotionality, c) asocial trends, d) amoral trends, e) vagabondage.

In other words, each case is to be diagnosed according to the superficial symptomatology although, for instance, sexual deviation is a common finding in neurotics and praecoxes and vagabondage is a frequent symptom of simple schizophrenia.

In *Outlines for Psychiatric Examinations,* Lewis states "Psychopathic personalities showing episodes of excitement, depression, definite paranoid trends, hallucinatory states and other marked deviations from their usual personality reaction, should be classified Psychosis with Psychopathic Personality."

Refutations of this have been provided adequately by Karpman, Rodgers, Kavka and Maughs. A review of the literature on this subject reveals a growing trend toward examining such diagnoses more searchingly, with resulting findings which demonstrate completely different concepts. These can best be expressed by stating that almost all so-called psychopaths really belong to other diagnostic groupings and only a few are true psychopaths without conscience. Therefore, the greater majority of so-called psychopaths are amenable to psychotherapy and may be rehabilitated with adequate therapy. This presents a hope for them, as opposed to the abandonment of anyone called a psychopath because psychopathic states are not remedial.

According to Karpman approximately 85 per cent of those termed psychopaths are not true primary psychopaths, but are showing psychopathic symptoms secondary to other diseases.

This paper does not attempt to improve or alter these newer dynamic concepts. However, it is thought that an exposition of these pathognomonic psychopathic symptoms while they were in full bloom, and their relation to other disease entities, might be helpful and instructive. It was felt that these symptoms would be most obvious in the cases that were serious enough to warrant a diagnosis of psychosis. For this reason 50 cases from a state hospital, all diagnosed as psychosis with psychopathic personality, were reviewed. In this series of unselected cases, a majority came from the general files, while several were under the immediate supervision of the writer. These cases were made up of all the usual subtypes of psychopathic states.

Whenever the diagnosis of psychosis with psychopathic personality was made, it was on the basis of the accepted diagnostic criteria:

a. inability to postpone immediate gratification.
b. inability to learn or profit by experience.
c. lack of regard for the rights of others.
d. history of antisocial behavior.
e. history of amoral experiences.
f. lack of insight.
g. impulsive suicidal acts.
h. frequent arrests.

i. if any, all hallucinations and delusions.
j. pathological lying.
k. almost any other symptom if it deviates from the accepted cultural norm.

Of the 50 cases 44 were diagnosed as psychosis with psychopathic state after an observation period in the county hospital which diagnosis was carried straight through to the patients discharge from the state hospital, although the diagnoses were, in normal hospital routine, reviewed several times during that period.

In the anamneses obtained directly from the patients, all except 5 indicated that the formative period was characterized by factors, to be elaborated later, which gave the child marked insecurities even though relatives considered the children aggressive or spoiled. From the total of 36 anamneses, it was impossible to draw any conclusion as to whether an over-protected child or one early thrown on his own resources was more prone to psychopathic behavior. From the standpoint of heredity, there was no more hereditary background in this so-called psychopathy than in the general population.

Many diagnosed psychosis with psychopathic state, with what might appear to be classical symptoms, are shown to have these symptoms only secondarily.

### *Case 1—Repeated Conflicts with the Law*

A 14 year old boy with a history of 22 arrests, with several jail sentences, was sent to the observation ward of a county hospital while awaiting sentence, because he had been beating his head against the wall and screaming. He was sent to a state hospital with a diagnosis of psychosis with psychopathic personality. At the state hospital he was cheerful and friendly, and told the examiner he had put on an act to avoid prison. He lied a great deal but made considerable effort to ingratiate himself with the physician. It was suspected that he indulged in homosexual relations with another patient in the ward but this was never actually confirmed.

The patient promised to reform stating that he knew he had always been wrong, but in the future would get a job, "go straight" and be a credit to the doctor. The physician felt that this obvious lying and ingratiating manner had at the core a strong transference relationship and attempted an encouraging and permissive attitude, but hospital routine prevented any effective work. This boy had a typical choir-boy appearance and could, within the limits of his educational and environmental experience, be altogether charming.

He was diagnosed as psychosis with psychopathic personality throughout his hospitalization and in three months was returned to court for sentence as being recovered from his psychotic episode.

There is evidence of instability, amorality, lack of sense of responsibility, and drinking in the family, but no specific history of nervous or mental illness. His father "disappeared" while he was still an infant. His mother made a marginal living doing unskilled work and presumably by working at a profession older than medicine. The boy was rejected by the mother and left to the care of his older sisters who also frequently made their rejection of him clear. One sister, nearer the patient in age, was quite attractive and very close to the patient at times. On one occasion, in a fit of unexplained rage, he threw a knife at this sister, apologizing profusely and affectionately immediately thereafter. This sister was defensive in the interview with the physician, whereas the mother was only too anxious to be rid of him. However, after each arrest, the mother would assuage her conscience by crying before the district attorney, the judge, or probation officer, and trying to get the patient off lightly. The patient had sporadic odd jobs, but kept them for no more than a few days at a time, losing interest and quitting.

He "admitted" to masturbation and bragged about improbable conquests with women. He denied homosexuality vehemently. When he spoke of his masturbation he expressed remorse and demonstrated considerable affective response as well as blushing and averted gaze. He denied any other sexual aberrations.

His work in school was only fair and apparently less than his intellectual endowment could achieve. In later years, before he quit school altogether, his truancy was so frequent that on several occasions he was brought to court because of it.

This boy was arrested 22 times by the time he was 14. His arrests, the earliest at the age of 8, were on suspicion of stealing, stripping cars, and truancy. He was arrested twice for fighting, once for carrying a knife, and several times for breaking into warehouses and railroad cars. At each arrest he would exhibit remorse and make promises of future good behavior.

This boy was bright, alert, very sensitive and defensive, and quick to perceive the attitude of those in authority with whom he came in contact. He not only expressed remorse over his acts and assurances about reformation, but obviously had guilt reactions. These were not related to his antisocial acts, but rather to the sexual difficulties of which he was conscious and other difficulties of which he was not fully aware. His feeling of being rejected by his mother was always apparent and his confused feelings toward her and his sister were a source of constant anxiety.

Past illnesses were not significant. He had had the usual childhood exanthemata with no sequelae and no other illnesses or injuries. This was his first hospitalization and diagnosis from beginning to end was psychosis with psychopathic state.

*Discussion*

Here we have many of the criteria for psychopathy fulfilled. We see antisocial behavior, inability to postpone immediate gratification, inability to profit by experience, pathological lying, etc. However, one factor in this case which is definitely out of place is guilt. This implies conscience, or morality, or super ego, and leads one to examine other symptoms more carefully. Bender emphasizes the lack of guilt in all her cases of child psychopathy.

With guilt feelings present, one must evaluate the other symptoms as expressions of a severe character disorder with much neurotic acting out for defense against anxiety. This anxiety not inconceivably may arise out of the pathologic family constellation and an apparently badly resolved Œdipus situation. It might be that his criminality was a repetitive compulsion, an impulse to re-enact the earlier emotional experience of having attention paid him by his mother. As Freud pointed out, this differs from and is more fundamental than the pleasure-principle, and contains "no potentiality of pleasure and which could at no time have been satisfactory."

Also, since antisocial acts are not infrequently found in those who attempt to act out defenses against castration anxieties by using pseudo-aggression and by compulsive warding off, it can be that this, too, plays an important role. It would seem, then, that rather than a strong instinctual drive toward gratification and a defeat of the "conscience," we have here a "conscience" so strong that it turns against itself, and less acceptable guilt is partially substituted and displaced onto antisocial acts for which there will be punishment and therefore partial atonement, with allaying of basic anxiety about the unacceptable guilt.

*Case 2—Viciousness*

This is a 33 year old white male admitted to a hospital on the prison accident ward after having crashed his car into a pole while escaping from the police in a 70 mile an hour chase after a traffic violation. In the accident ward his emotional instability, crying spells, and suicidal ideas caused a transfer to the psychopathic ward and then to a state hospital from which he was discharged in less than 3 months with the diagnosis psychosis with psychopathic personality. This diagnosis was reached not only because of the above behavior but also because of a long record of antisocial acts.

I saw this patient after his discharge from the hospital, but he continued his visits only under threat of his wife's leaving him. This patient was explosive and emotionally unstable. He was totally lacking in insight and always suspicious. Out of the hospital he had numerous "big deals" pending, none of which materialized and all of them being quite shady. In the few months he was in therapy he appeared affable and friendly but actually he was suspicious and guarded. A genuine transference relationship had not been established.

The father was a stern, harsh, unfriendly and rejecting alcoholic who would often beat the patient, an only child, and the mother. The latter allegedly had a heart ailment which conveniently allowed her to faint or have "weak spells" whenever the going was rough, or when the patient expressed ideas of which she did not approve. The household was cold and there was never any expression of affection. The patient fiercely resented his father's real or fancied abuse of the mother and at the age of 14 struck his father from behind with a stick in her defense.

Prior to entering military service the patient worked only at occasional odd jobs which he would quit out of boredom or because "he wasn't going to have people ordering him around." On return from service, where he had learned a trade in disciplinary barracks, he had many jobs but quit them all.

As soon as the patient learned that good conduct was helpful, his conduct became exemplary and his sentence would be reviewed and reduced. His "self control" however was more apparent than real and it was primarily through deception and conspiracy with others that his record appeared good.

The patient completed high school with mediocre grades and frequent truancy. He did not like school and attended only because of the vigilance of the probation officer. His parents reacted neither with praise for good performance nor censure for poor work or truancy. He felt that there was no sense in doing well since it made no difference to either parent.

Because of need to impress the therapist and since transference had been insufficiently established, information as to sex habits was inadequate and possiby inaccurate. He spokle diffidently of masturbation, denied homosexuality, and boasted of his potency. He denied childhood sexual memories, traumatic or otherwise. He boasted of his large penis, his many conquests, and his ability to gratify women.

He was married to an attractive model with whom he had carried on a sporadic affair for many years. She was aware of his past antisocial activities. It is interesting to note that this woman, also interviewed, had strong homosexual tendencies, was frigid in intercourse, and had been promiscuous since the age of 15. The wife, at the insistence of the patient, had told him of all her

premarital experiences, which made him furious although superficially he seemed to be tolerant.

He carried on several extra-marital affairs, concealing them from his wife and reacted with rage and jealousy to real or fancied similar conduct by his wife. He exhibited persecutory ideas in relation to his extra-marital activities and believed that his wife had employed detectives to follow him. His wife assured me that this was not so, supporting this statement realistically by pointing out that in addition to her not having any inclination to do so, it would have been far beyond her financial means. On the other hand, the patient would not infrequently attempt to check on her.

His approach to intercourse was abrupt, without tenderness. He denied any potency difficulty, bragged of his virility, and criticized his wife for her coldness. His references to sex were matter of fact and affectless.

He denied early difficulties, but at the age of 8 stole a bicycle, at 10 was "stripping cars," and at 12 was caught doing this but his father had the case "fixed." The father was neither punitive nor understanding, but constantly cold and rejecting. At 15 patient ran around with a gang and indulged in their petty and major stealing, as well as in gang fights with other groups.

As soon as he joined the Army he was involved in a constant series of disciplinary situations, from non-saluting to being frequently AWOL. As a culmination of these he underwent General Court Martial and was sentenced to 6 months in the stockade. While there he managed to obtain a pistol and attempted to escape in company with two other prisoners. He was detected by one guard, whom he shot, but other guards captured him. For this he was given 10 years in a disciplinary barracks and a bad conduct discharge. However, his sentence was reviewed after serving 6 months, and he was released and sent overseas on probation. Later he received an honorable discharge. He related all this with relish and was proud to have hoodwinked "the authorities." He exhibited no remorse.

Subsequent to discharge he was in constant trouble for fighting and drunkenness. On one occasion, while fleeing the police, he crashed his car into a pole and was injured, resulting in his hospitalization.

Although claiming that he wants to work, he holds jobs for no more than a few days, either quitting because of "no future" or because of fights. Meanwhile he is engaged, together with an "inside" accomplice, in stealing watches from an assembly plant and selling them.

On each visit he was flashily dressed and appeared quite at home in the office. He had a strabismus of one eye just mild enough to give him an odd vicious look without having a cross-eye. In the office he would be glib, vaguely patronizing and at the same time attempt to ingratiate himself. He would have occasional outbursts of rage against his wife, but concealed all other emotional reactions. Intellect was average or better. Because of this strabismus a neurological examination was done and neurologically oriented history taken. At the age of 5 he had had pertussis with complications including what may have been meningitis and at that time his squint developed. Neurological examination was negative with the exception of the right 6th nerve paresis but EEG showed "moderate degree of diffuse deviation from the electrical normal with a tendency toward intermittency, compatible with, but not diagnostic of, interseizure activity or behavioral problem."

He was put on dilantin sodium, and himself noticed a "calming down effect." Meanwhile transference was still not good. Because he felt improved he left therapy, and has not been heard from since.

*Discussion:*

This patient has many of the postulates of psychopathy, e.g.: inability to postpone immediate gratification, apparent inability to profit by experience, impulsivity, frequent conflicts with the law, criminality. He also had other characteristics which could fit anywhere, e.g.: temper tantrums, ideas of infidelity and ideas of reference, suspiciousness of others, and a lack of ability to relate to others. However, in addition to these we have a possible history of pertussis encephalitis with neurologic and electroencephalographic changes. Instead of labeling him as a psychopath, or character disorder, or even pseudo-neurotic schizophrenic, one must take into account the organic changes and consider him a post-encephalitic behavior disorder or to have psychomotor seizures. Here psychotherapy, which is necessary, must be subordinated to specific chemotherapy.

### *Case 3—Inveterate Gambling*

This 53 year old white male was hospitalized after a suicidal gesture apparently motivated by overwhelming gambling losses. In the hospital he exhibited remorse for his act, remorse for his losses, and made copious promises to "go straight." After a short period of observation he was signed out of the hospital by influential friends. His tentative diagnosis was psychosis with psychopathic state. He was seen by me as an office patient.

There was no history of mental illness in the immediate or collateral family line. His parents were Italian immigrants living in poor circumstances. The father was an ice and coal dealer. He was kind to the boy in material things, but paid him little attention and never displayed affection to any member of the family. The father died when the patient was 11.

The mother was also cold and held herself aloof from the children. She organized the household, took care of the money, and when the ice business was bad and after, when her husband died, began designing and manufacturing artificial flowers. She developed a large and successful business. She had little concern for the patient and he fended for himself. In later life the mother would always intercede for the patient in his financial difficulties and never criticized him.

When the patient was 13 the mother remarried, without telling the family, and they all moved in with the step-father who quit his job to participate in the artificial flower enterprise. He was tolerant but not affectionate toward the patient. The patient expressed some resentment over the fact that the children had not been informed of the mother's decision to marry, but glossed over it.

There were three siblings and two half siblings with whom the patient was on a friendly but not affectionate level, with the exception of a sister 18 months his junior who was always close to him who now contributes to his support. The siblings all entered the business, and after the mother retired, they organized a corporation, excluding the patient from the group, because of his unreliability and his embezzling.

The patient married, in his early 40s, a widow several years his senior. The relationship was fair, with much puritanism about sexuality. The wife is sterile, which is a source of resentment on the part of the patient although this comes through in partially substituted ways. His gambling has been a source of contention and more recently there has been "a coldness" between them. Interestingly, his wife attempted suicide when she found out about his losses in the past. He has concealed more recent losses from her. He emphasizes his faithfulness and his carrying out of responsibilities toward his wife, and admits, without much insight, that he is not having a good relationship with her. He has many acquaintances, but admittedly no close friends.

The patient left school in the eighth grade, as soon as he could get working papers. He has an innate shrewdness as evidenced by his keen bartering and selling abilities, and is able to learn languages by ear.

The patient is reticent about his sexual background and his general attitude toward sex is puritanical. He denies any trauma at early ages and any sexual experimentation. At the age of 15 he began frequenting houses of prostitution. From 18 on until marriage he had a business like, unemotional relationship with one woman after another, apparently receiving sexual satisfaction but never becoming emotionally involved. Sexual relationships in marriage were almost mechanical, relatively infrequent, and the patient never was able to express himself emotionally. He prides himself on his not having extra marital contacts despite opportunities. He denied homosexual acts or ideas. He stated that he had never masturbated.

During his youth he worked in his mother's factory. Later he bought and sold used automobiles in which venture he was fairly successful.

At the age of 8 he began to abstract varying small sums from the family's hoard. At times he felt his mother was aware of this, but chose to believe that she deliberately left the money where he could get it. As he grew older and worked in the business he would withhold large sums from collections and forge company checks. He emphasized that he never took advantage of anyone except his family. Later, during the war, he was active in black market activities.

When he was 18 he began to gamble making several "killings." He has won and lost hundreds of thousands dollars betting on horse racing. He does not indulge in any other form of gambling. Throughout his gambling run two threads. He never uses winnings on himself, but continues to bet, pyramiding until everything is lost including money he has earned at work. Except in a losing streak in which everything is thrown in to recoup, he never bets with money made at what he considers honest work, but only with money won by betting or made "extra" legally as in the black market.

He is an apparently forceful, dynamic individual who seems carefree. Actually there is much concealed depression and guilt. In the initial hours of therapy while describing his stealing from his mother, he repeated over and over "and I was never punished for it." He has no remorse about this and he projects the blame, i.e.—if I had been punished I wouldn't have taken it, if I hadn't taken it I wouldn't have gambled, if I hadn't gambled, and won, I wouldn't be in trouble now, therefore, this is my mother's fault. He does feel remorse about his wife's suicidal attempt, but blames that on his gambling, which, in his words, was beyond his control. He is now developing some insight into his reasons for gambling, but therapy has not attained a very deep level.

*Discussion*

In the hospital his condition was diagnosed as psychosis with psychopathic state. In this case we see an individual from an affectionless home with a strong cold father and an indifferent mother. His stealing from them appears to have the significance of stealing affection, and he is constantly remembering that he was not punished for this although he feels he should have been. His gambling in later life seems to be a displacement and partial substitution for feelings of guilt relevant to his childhood stealing, or at least guilt about what the stealing symbolized, and his constant need for losing is the atonement which symbolically frees him of the guilt. These mechanisms of de-

fense kept him anxiety free, but when he was no longer able to successfully utilize this process, that is, when he no longer had means to gamble, his atonement took the form of a suicidal act, with all its implications of punishing others on whom he was attempting to project the guilt.

Certainly the guilt feelings alone should remove this from the sphere of psychopathy, and this should be considered a neurotic situation. The fact that he is effecting improvement establishes the latter diagnosis as more valid.

In these cases, we see many of the so-called psychopathic traits exhibited; but closer scrutiny reveals them to have deeper determinants altering their manifest meaning. Among the other cases in this group similar situations were encountered.

Sexuality was considered only from a superficial point of view. If a patient denied sexual aberrations or minimized them, he was investigated no further even if it were suspected that there was sexual psychopathology. If he exhibited concern or remorse, or if even superficially it could be determined that feelings of guilt were present, this was not taken into account from a diagnostic viewpoint.

In all patients in this series, whether remorse was present or not, there was guilt relative to sexual experiences of various types. Almost all had both remorse and guilt about masturbation. In a few masturbation was denied. In those in which such a denial was credible the guilt was, of course, more pronounced and displaced onto and substituted for by other activities not apparently sexual but for which punishment and atonement could be obtained. Homosexuality was not an uncommon finding, but in those cases in which it was admitted the patients obviously had guilt relating to it. Sexuality on an adult genital level was rare, although heterosexuality was achieved as a level by most.

Potency difficulties, rarely to the point of total impotence or frigidity, but frequently involving various levels of premature ejaculation, were found in most cases. Citations in the literature regarding this as a neurotic mechanism frequently centering around guilt and neurotic fear are numerous.

Increased sexual activity, whether of the Don Juan or Messalina type or of lesser degree, is accepted as being a neurotic defense against either hostility or castration fears, or latent homosexuality. In heterosexual relationships there seemed little ability to relate on more than a superficial level to the partner, and feelings of guilt were rife here too, although not necessarily in connection with the partner. These sexual difficulties, whether at the heterosexual level or at a lower level of psycho-sexual development, are far from those expected in the psychopathic states, where the sex life is described as exuberant, boundless, and, even in aberrations, guilt free. So we see that in sexuality, the so-called psychopathic sexuality may be psychopathological but not necessarily a psychopathic trait.

Anti-social behavior was present in each case. In six cases it involved specific criminal acts including armed robbery, assault with a deadly weapon, breaking and entering, theft, and in one instance, statutory rape. In eight cases it was drug addiction involving the use of marihuana, cocaine, morphine, heroine, the barbiturate group, and benzedrine. In 26 cases it was alcoholism to an extent that required the attention of law enforcement authorities. In several cases acts which could have been prosecuted were covered up by victims or relatives. In every case but two the patient had been arrested at least once, and arrests varied in number from once to 22 times in the case of a 14 year old boy.

Of the acts included in anti-social behavior, some were done impulsively, some by reason of inability to postpone immediate gratification even after deliberation, and certainly in the case of the recidivist, there was apparent inability to profit by experience. In all these patients there was an inability to postpone immediate gratification. They were impulsive to various degrees, depending on whether the goal was money, sexual gratification, or overtly aggressive acts. Nevertheless, the most impulsive of this group seemed to be those whose backgrounds demonstrated many psychoneurotic determinants.

Among these were broken homes, parents involved in unacceptable or anti-social ac-

tivities, miserable socio-economic levels, and inter-racial or inter-religious marriages. Throughout all of these is the chief determinant, rejection by a parent or parents, and consequent feelings of being unwanted, unloved, and insecure even when apparently well cared for. Inability to profit by experience, whether based on punishment or reward in a concrete sense, or whether on a more philosophical level, was noted in all, but here again the same determinants were noted. Lack of regard for the rights of others was usually characterized by superficial and immediate motivation, rather than anything deeper as seen in a few cases, but the majority who showed these symptoms were utilizing it for acting out hostility.

The difference between amorality and immorality is sometimes difficult to point out, yet in these cases it is important. The apparent lack of conscience which makes it appear that these so-called psychopaths are not burdened by conscience about their acts is dissipated on closer scrutiny. This I believe is a pathognomonic differentiation. No conscience, psychopath; conscience, no psychopath.

Lack of insight is certainly not characteristic of any specific psychiatric entity, nor is lack of judgment. Both of these are found in true as well as secondary psychopaths. Impulsive suicidal acts are of no specific significance. History of frequent arrests is after all, a history of frequent impulsivity or defiance, and is not a differential diagnostic point. As already pointed out, these symptoms were supposedly characteristic of psychopathy. Yet any one symptom or group of symptoms with the exception of true lack of conscience could easily be part of any other psychiatric entity, up to and including various forms of amentia.

These cases have not been specifically selected. They are typical of those diagnosed "psychosis with psychopathic personality" in various institutions. Each has in common those symptoms, all or in part, which are accepted as being pathognomonic of constitutional psychopathy. Each symptom, taken from a dynamic standpoint, may fit into one or several other diagnostic entities. Cases of dementia praecox, amentias, psychoneurosis, psychosis with organic disease, etc., all have symptoms which, if isolated, could also fit into the symptom-complex of psychopathy.

With a dynamic approach, mechanisms behind symptoms become apparent and diagnoses may be revised. In this series, no one of the fifty cases stands up as being psychopathy when mechanisms are probed. Aside from rare instances of superego agenesis, as defined by Karpman, most so-called psychopaths fall into other diagnostic groupings which frequently are more amenable to treatment. With this in mind, the successes claimed by some therapists in the treatment of psychopaths becomes plausible. On *a priori* reasoning then, most so-called psychopaths are amenable to treatment and should be considered in that light. In addition to this, medico-legal situations in which the patient was formerly considered as "legally sane" may be re-evaluated. With proposed punitive legislation relative to the "sexual psychopath" this becomes even more important.

*Summary*

Fifty cases of "psychosis with psychopathic personality" were reviewed. Of these three non-selected cases were presented.

An attempt was made to point out the mechanisms of symptoms and demonstrate the fallacy of considering symptoms as diagnostic entities.

A plea is made to reconsider the symptoms of "psychopathy" and to re-evaluate the patient as a candidate for therapy as well as for medico-legal purposes.

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# Spinal Anaesthesia With Electroshock Therapy In A Case Complicated By Recent Fracture

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A muscle-softening agent is indicated in certain selected cases where ordinarily electroshock therapy is contraindicated. The drug of choice in recent years, which has been widely used to soften the convulsion, is curare. Extreme caution and ample safeguards must attend the use of this potent drug. Riggs and Schlomer describe serious cardiac reactions in the use of curare which failed to respond to neostigmine, a recognized antidote. Salem and Carmichael report a death due to curare which was used with electroshock therapy. Young used curare in 42 consecutive patients and in 11 of those cases it had to be discontinued because of severe reactions. Kalinowsky and Hoch report that curare is reliable, but requires care and close supervision.

In the following case, the patient was suffering from a severe case of involution melancholia. Eight months prior to treatment, the patient incurred a fracture involving the subtrochanteric area of the right femur. The fracture was badly comminuted requiring internal fixation with an Austen-Moore pin. On subsequent x-rays it was noted that the pin had completely cut out the head of the femur and was impinging on the acetabulum. Later good bony union developed, but with the leg in almost ninety degree rotation. Two months following the injury, the pin was removed. He now has ninety degrees of external rotation, which is fixed. The orthopedist was of the opinion that because of a great amount of bone atrophy, the use of electroshock therapy, without the use of some form of muscle-softening agent would be extremely hazardous. In addition, the patient gave a history of a "heart attack" one year before. The cardiac findings indicated a mild compensated hypertension, sinus tachycardia with negative findings of the electrocardiogram. In view of the possible toxic effects of curare, especially cardiac arrest, it was decided to administer electroshock therapy in conjunction with spinal anesthesia in order to control the muscular contractions of the lower extremities and so minimize the danger of trauma to the affected member.

From Veterans Administration Hospital.

### *Case History*

This 52 year old white, married male, came to the hospital in an acutely depressed state. He was despondent, discouraged and expressed nihilistic ideas. The first evidence of the beginning of mental illness occurred approximately two years previously. He began complaining of frontal headaches, dizziness, lack of drive and energy. One year ago patient had been dismissed from his job as a tap and die worker, a position he had held continuously for 23 years. One week following this unfortunate happening, fire destroyed his home. Eight months prior to the time the present treatment was instituted, patient collapsed while walking down stairs. He was treated in a general hospital for a hypertensive cardiac condition and in a few days his condition im-

proved. On the day he was scheduled to be discharged from the hospital he jumped out of a second story window, incurring the fracture of the right femur described above. He was transferred from the general hospital to a state mental hospital, but remained only three days and was discharged, against medical advice, in the care of his wife. At home, in addition to evidence of marked depression, he developed ideas of reference and infidelity. He became increasingly restless, suffered from insomnia, anorexia and lost considerable weight. He remained home for three months, but his symptoms gradually became worse and he was brought to the Veterans Administration Neuropsychiatric Hospital for treatment.

Past history reveals that he is native born of Polish extraction, the second oldest of six siblings. Early developmental history was uneventful. He left high school in the third year, quit school when he was 18 to join the army. He had been a combat flyer in the U.S.A.F. in France during World War I. He was not wounded and had no serious illnesses. He was honorably discharged at the end of the war. He married at age twenty-five to a girl seven years his junior. There was one child of this union, a male, who is now twenty-three years old and adjusting well. In regard to sexual history there is evidence of severe repression of sexual drive as is so common in patients who later in life give evidence of difficulty in this sphere by the development of symptoms which are disabling. The patient denied indulging in masturbation at any time. There was also no history of any heterosexual contacts until his marriage. Patient had been a Catholic until recently when both he and his wife became ardent disciples of a religious sect called Jehovah's Witnesses. Patient does not drink or use tobacco in any form. The prepsychotic personality reveals an individual whose self-esteem is regulated by external supplies and when these supplies are lacking and his narcissistic needs are not satisfied, his self-esteem diminishes to a danger point and a depression results.

During his hospital stay it was necessary to keep the patient on a special observation ward because of his deepening depressive and suicidal trends. He also exhibited vague ideas of reference, suspiciousness, seclusiveness, preoccupation and psychomotor retardation. After the patient was hospitalized for four months with no apparent improvement in his mental state, it was decided to institute electroshock treatments with the aid of spinal anaesthesia, to control the muscular contractions of the lower extremities.

Pre-treatment studies included the following:

(1) Electrocardiogram studies which were negative
(2) Blood Chemistry
  (A) Glucose Tolerance 85 mgm
  (B) Non-Protein-Nitrogen 26.5 mgm
(3) Complete Blood Count
  (A) Red Blood Cells 5,330,000
  (B) White Blood Cells 7,200
  (C) Hemoglobin 14.4 gms
  (D) Segs 44; Bands 1
  (E) Lymphocytes 54; Monocytes 1
(4) Urinalysis—negative
(5) Serology—Blood Kahn and Wassermann—negative
(6) X-ray:
  (A) Spine and hip: No gross compression fracture. A film of right hip shows an old intertrochanteric fracture, healed, in satisfactory position with considerable callus.
  (B) Chest: Heart outline normal. Lungs are normally translucent.

Patient was given a total of five electric treatments interspersed at two day intervals. Two hours prior to each treatment patient was given nembutal grains 1½ orally and one hour prior to treatment demerol 100 mgm, scopalamine 1/150 gr. hypodermically. The blood pressure prior to treatment was 126 systolic and 106 diastolic. Pulse was 96 with patient in the sitting position. Ninety mgm procaine in 2 cc of 10% glucose was mixed with 1 cc spinal fluid and injected in the spinal canal at the 4th lumbar interspace. After ten minutes, sensory examination revealed that the anesthetic level was at the 10th thoracic vertebra. A standard electric shock apparatus of 105-125 volts, 50-60 cycles A.C. was used. On the first treatment the peak voltage was 450 and the time interval .5 seconds. There was no reaction and the time interval was lengthened to .7 seconds. The result was a grand mal convulsion. It was noted that there was only a slight twitching of the lower extremities, whereas the upper ex-

tremities showed a good tonic phase followed by clonic spasms which lasted 1½ minutes.

TABLE I

FIRST TREATMENT—POST-SHOCK

| *Post-Shock Time* | *B.P.* | *Pulse* | *Respiration* |
|---|---|---|---|
| Immediate | 104/90 | 140 | 15-shallow |
| 3 minutes | 92/86 | 120 | 16-shallow |
| 10 minutes | 85/60 | 120 | 20-stronger |
| 15 minutes | 78/64 | 110 | 20-good |
| 1 hour | 125/95 | 90 | 22-good |

In view of the serious fall in blood pressure following the first treatment, it was deemed advisable to immediately precede each following treatments with a hypodermic injection of the vaso-constrictor-neosynephrine, ½cc. The following table is the average of blood pressure, pulse and respiration for the remaining treatments. The administration of neosynephrine satisfactorily controlled the alarming fall in blood pressure noted after the first treatment.

TABLE II

TREATMENTS—2-5 INCL.: AVERAGE

| *Post-Shock Time* | *B.P.* | *Pulse* | *Respiration* |
|---|---|---|---|
| Immediate | 170/120 | 130 | 18-good |
| 3 minutes | 165/115 | 120 | 20-good |
| 10 minutes | 140/100 | 105 | 22-good |
| 15 minutes | 130/95 | 90 | 24-good |
| 1 hour | 130/90 | 88 | 22-good |

In regard to the muscular contractions in treatments 2 to 5 inclusive, the same pattern was noted as on the first treatment. The upper extremities and trunk evidenced a good grand mal convulsion, whereas only a slight twitching of the lower extremities was noted. The patient following each treatment regained consciousness within a few minutes and then went into a restful slumber which lasted a few hours. Roentgenograms of the spine and extremities showed no bony trauma following the series of treatments.

The patient showed dramatic improvement of his psychosis following the fourth treatment. He lost his depressive mien, became more sociable and friendly with patients and ward personnel. He took an active part in hospital activities and entered into the full program as outlined for him by the rehabilitation staff of the hospital. Only limited supportive psychotherapy was given the patient following the course of electroshock treatments. Within five weeks following his fifth and last treatment patient left the hospital for a trial visit.

*Summary*

1. This 52 year old patient with diagnosis of involution melancholia had the complication of a recent comminuted fracture of the right femur with some bone atrophy.
2. Five electroshock treatments were given preceded by spinal anesthesia of 90 mgm. procaine in 2 cc. of 10% glucose injected at the level of the 4th lumbar interspace.
3. There was only a slight twitching of the lower extremities with a good grand mal effect on the rest of the body.
4. The complication of extreme hypotension following treatment was controlled by neosynephrine, ½ cc. hypodermically given immediately prior to the administration of electroshock.
5. This method of treatment is suggested in cases of localized bony lesions of the lower extremities, such as recent fractures, osteoporosis, bony atrophy, ankylosis and arthritis complicating psychiatric illness which might benefit from electroshock therapy.

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*Author's Note:* Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

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# Effects of Ascorbic Acid In Antabuse-Alcohol Reactions

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It is generally known that antabuse (tetraethylthiuramdisulfide) when administered renders the subject sensitive to alcohol. If alcohol be given to such a sensitized person, characteristic symptoms result. Hald, Jacobsen, and Larsen (1948) demonstrated a marked and rapid increase in blood acetaldehyde at the time these symptoms appeared and ascribed them to acetaldehyde accumulation.

The incentives for this paper came from two sources. First, clinical experience in our hospital indicated that ascorbic acid exerted a beneficial influence on certain patients at the height of their alcohol reaction by decreasing the severity of certain symptoms. Second, in vitro experiments in our laboratory showed that antabuse inhibits cellular respiration as measured by oxygen uptake with the Warburg technique (Edwards 1949), and further that there is a probability of suppressing this inhibition by the addition of ascorbic acid to the system (Nowinski, Edwards, and Ellis, 1950). Therefore it became of importance to ascertain what beneficial effect ascorbic acid has on antabuse-alcohol reactions, how ascorbic acid may exert such beneficial effect, and what effect, if any, it has on acetaldehyde accumulation.

As many of the alcoholics admitted to the hospital show symptoms of avitaminosis and poor nutrition, they are usually treated with curative doses of all the vitamins before antabuse is administered. However, when antabuse is administered vitamin C is excluded from the polyvitamin capsules. Because the alcohol test is always applied twice, while the patient is in the hospital, it was decided to run one test with and another without ascorbic acid. About 2 ml. blood were drawn for acetaldehyde estimation immediately before ingestion of alcohol and again after 30 minutes, 45 minutes and 60 minutes; thus the curve of rise and fall of acetaldehyde in the blood could be followed. The estimations were carried out on duplicated samples strictly according to the method of Stotz (1943). The symptoms, their appearance and disappearance, were carefully registered. They consisted of: first, objective symptoms, such as fall in blood pressure, increase in pulse rate, vomiting, flushing of face and neck, E.K.G. changes, motor restlessness, etc.; and second, subjective symptoms including nausea, headache, palpitation, apprehension, suffocation, weakness, and substernal discomfort.

Our results on a total of 13 patients showed that the increase of acetaldehyde in the blood is independent of the ascorbic acid administration. When the dose of alcohol was the same for both the tests, there was no significant difference between the blood acetaldehyde level with ascorbic acid and the level without ascorbic acid. (See table.)

The "in vitro" finding by Edwards (1949) that antabuse inhibits cellular respiration, which probably also takes place in the body, suggests that besides the symptoms due to the increased acetaldehyde level, there may also be provoked a certain degree of anoxia and that some of the symptoms may be due to this. That there are actually two types of symptoms is also suggested by work of Constant, Niblo, and Nowinski, who found that 30 minutes after ingestion of alcohol, when the reaction of the patient is at its highest, changes in E.K.G. occur, particularly in the S-T segment and T wave which do not disappear when ascorbic acid is injected.

In our cases, the fall of blood pressure and increase of the pulse rate were not affected by the ascorbic acid, both of these symptoms being probably connected with the increase in acetaldehyde. However, definite relief and in several cases a suppression of the following symptoms were observed. Headache either did not occur or was very slight, motor restlessness in some cases disappeared much sooner when vitamin C was given, palpitation did not show up as often

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**Table I** Summary of Results with Ascorbic Acid (AA) on Antabuse - Alcohol Reaction

| Patient | mg. per cent Acetaldehyde in blood | | Blood pressure | | Pulse rate | | Flushing | Motor Restlessness | Nausea | Vomit. | Headache | Palpitation | Apprehension | Sensation of Suffocation | Weakness | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 min. | 30 min. | 0 min. | 30 min. | 0 min. | 30 min. | | | | | | | | | | |
| C.A.D. | 0.044 | 0.178 | 145/105 | 140/92 | 90 | 98 | Face 15' | Yes | Yes | No | Yes 30' | No | Yes 15' | Yes 15' | Yes 25' | 25cc whiskey |
| | 0.048 | 0.092 | 125/90 | 112/82 | 82 | 72 | Slight 20' | No | No | No | Yes 20' | No | No | No | No | 25cc whiskey with 1 gm AA |
| H.E.D. | Traces | 0.437 | 156/104 | 136/68 | 92 | 120 | Face 15' Neck and Chest 30' | Yes 45' | Slight 40' | No | No | Yes 15' | Slight | No | Yes | 30cc whiskey |
| | 0.036 | 0.868 | 155/100 | 138/76 | 94 | 120 | Face 10' | No | Slight | No | Slight 30' | Yes 15' | No | No | Very faint | 30cc whiskey with 1 gm AA |
| C.L.B. | Traces | 0.274 | 114/80 | 128/68 | 78 | 120 | Face 15' Chest 15' | No | No | No | No | No | No | No | No | 30cc whiskey. Patient coughed throughout whole test. |
| | 0.051 | 0.190 | 122/80 | 130/88 | 100 | 112 | Face 20' | No | No | No | No | No | No | No | No | 30cc whiskey with 1 gm AA |
| G.O.D. | Traces | 0.255 | 158/95 | 150/75 | 100 | 128 | Face 30' | No | No | No | Slight 30' | Yes 25' | No | No | No | 30cc whiskey. Had "crick" in neck at 30'. |
| | 0.090 | 0.148 | 140/80 | 155/90 | 92 | 110 | Face 20' | No | No | No | No | No | No | No | No | 30cc whiskey with 1 gm AA. Saw dark spots in front of eyes from 10-30' |
| A.P.W. | 0.046 | 0.457 | 125/90 | 115/85 | 78 | 104 | Face 10' Neck 20' | Yes 10' | No | No | No | No | Yes | Yes Grunts | Yes ? | 15cc alcohol. Complains of arm straps being tight. |
| | 0.046 | 0.532 | 124/74 | 98/50 | 80 | 114 | Face 10' Arms, Neck and Chest 30' | Yes 30' | Slight | No | No | No | Slight | No | No | 15cc alcohol with 1 gm AA |
| W.J.R. | 0.068 | 0.343 | 124/80 | 125/62 | 82 | 106 | Face 10' Neck and Chest 15' | No | Stomach feels full | No | Yes 10' | Yes 15' | Slight | Slight | Slight | 10cc alcohol |
| | Traces | 0.150 | 142/95 | 92/55 | 70 | 68 | Face 10' Chest 15' | Yes 25' | Yes 25' | No | Yes 5' | Yes 25' | Yes | Yes | Yes 25' | 15cc alcohol with 2 gm AA See text |
| J.S.S. | 0.046 | 0.168 | 130/75 | 130/70 | 100 | 100 | Face 15' | No | No | No | No | No | No | Yes 15' | No | 15cc alcohol |
| | 0.021 | 0.150 | 120/80 | 135/80 | 90 | 106 | Face 15' | No | No | No | No | No | No | No | Slight | 15cc alcohol with 1 gm AA |
| B.C.O. | 0.020 | 0.765 | 122/84 | 118/60 | 100 | 120 | Face, Neck, Chest 15-16' | Yes 15-16' | Yes 40' | No | Yes 10-16' | Yes 15-16' Pain | Yes 15-16' | Yes 10-16' | Yes | See text 40cc whiskey with 2 gm AA |
| | 0.014 | 0.052 | 112/95 | 115/85 | 104 | 92 | Face 15' | No | No | No | Yes 30' | No | Slight | No | Little | 10cc whiskey with 0.5gm AA |
| D.D. | 0.024 | 0.104 | 140/100 | 140/90 | 96 | 108 | Face | No | No | No | Yes | Yes | Slight | Yes | No | 25cc whiskey |
| | 0.08 | 0.196 | 134/90 | 132/90 | 108 | 102 | Face | No | No | No | Slight | Yes | No | No | Yes | 25cc whiskey with 0.5gm AA |
| P.S. | Traces | 0.160 | 130/75 | 135/90 | 92 | 106 | Face | No | No | No | No | Slight | No | No | No | 15cc alcohol |
| | Traces | 0.139 | 140/86 | 142/88 | 92 | 104 | Face | No | No | No | No | No | No | No | No | 15cc alcohol with 1 gm AA |
| J.H. | 0.043 | 0.300 | 140/80 | 98/60 | 76 | 64 | Face and Neck | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 15cc alcohol with 2 gm AA during test due to severe symptoms |
| | 0.011 | 0.168 | 145/90 | 135/80 | 80 | 122 | Face | Yes | Yes | No | Yes | Yes | No | No | Yes | 10cc alcohol with 1 gm AA at start and another 1 gm after 45 minutes due to severe symptoms. $O_2$ by mask after 1 hr caused prompt recovery. |
| McL. | 0.018 | 0.396 | 140/85 | 135/55 | 78 | 132 | Face | No | No | No | No | Yes | Slight | Yes | Yes | 15cc alcohol. Slightly dizzy before alcohol given. Had blurred vision at height of reaction. |
| | 0.059 | 0.444 | 130/75 | 110/55 | 80 | 164 | Face | No | No | No | No | No | No | No | Slight | 15cc alcohol with 1 gm AA |
| C.T.H. | 0.054 | 0.118 | 140/75 | 138/45 | 72 | 104 | Face | Yes | No | No | Yes | Yes | Yes | Yes | Yes | 15cc alcohol. Compared test in retrospect to once when real scared. Hands felt numb during test. |
| | 0.048 | 0.344 | 138/70 | 135/35 | 78 | 102 | Face | No | No | No | Slight | Slight | No | Yes | No | 15cc alcohol with 1 gm AA |

and when it did, it was less severe. The feeling of weakness and suffocation either did not appear at all or was of lesser degree. Apprehension and pallor were markedly lessened. The rate of disappearance of acetaldehyde from the blood was not affected by the ascorbic acid.

The reactions in two of our patients are particularly worthy of note. One, B.C.G., received 40 ml. whiskey at the beginning of the first test. In 25 minutes, symptoms of headache, substernal oppression, restlessness, apprehension, pallor, shortness of breath and tearfulness had become alarming. One gm. ascorbic acid was given intravenously with improvement of mentioned symptoms in 10 minutes. There was no change in blood pressure or pulse rate. Again 50 minutes after ingestion of alcohol, the symptoms once more became alarming. Patient warned us he was "going to die." Another 1 gm. ascorbic acid was given intravenously and marked improvement was noted within 5 minutes. On his second test the amount of whiskey was reduced to 10 ml.

The second patient, W.J.R., received 15 ml. ethyl alcohol and 1 gm. ascorbic acid intravenously at outset of the first test. Within 30 minutes, symptoms of nausea, motor restlessness, pallor, weakness, palpitation and lassitude had become alarming. Also, blood pressure had fallen to 92/55 and pulse to 68. Another 1 gm. ascorbic acid was given intravenously with marked improvement noted within 4 minutes in all symptoms except the low pulse and blood pressure which showed no significant change. In the second test he received only 10 ml. alcohol.

These observations lead us to the belief that there are actually two types of symptoms produced. First, symptoms due to the accumulation of acetaldehyde (increased pulse rate, decreased blood pressure, flushing, changes in the E.K.G.) and, second, symptoms due to the influence of antabuse directly upon body (motor restlessness, sensation of suffocation, apprehension, headache, palpitation, pallor, weakness, etc.).

The dual character of symptoms also would explain the fact we often observed, that patients frequently complain of nausea, weakness, and headache when the administration of antabuse has just been started (i.e., before any alcohol is ingested). In our experience, we also had patients such as G.O.D., who complained of weakness, blacking-out spells of several minutes duration, and mental confusion six weeks after the last test, the patient still receiving antabuse. The acetaldehyde level in the blood was, at that time, essentially the same as before the first alcohol test when the patient had no symptoms whatsoever. In another case, C.A.D., the patient complained of nausea and headache and vomited five hours after the test, but only traces of acetaldehyde were found in the blood. In a third case, J.H., 5 days after the second test with alcohol and 4 days after discharge from hospital, the patient was found still to be confused, showing memory impairment, general lassitude and apathy. He was unable to perform his duties at work due to poor memory and confusion and was returned to us by his employer. He had previously been able to perform these duties.

Bennett, McKeever and Turk (1951) recenty reported 6 cases of mental confusion and delirium following antabuse administration. These psychotic states subsided when antabuse was withdrawn.

Our clinical findings are in accordance with the experimental results on rats described by Lester and Greenberg (1950).

If antabuse actually causes a certain degree of anoxia in the organism, it is reasonable to suppose that the ascorbic acid suppresses it and restores normal oxidative processes.

*Summary*

1. Ascorbic acid, administered to patients treated with antabuse and alcohol, tends to relieve or suppress the following symptoms: headache, motor restlessness, palpitation, weakness and apprehension. It does not, however, influence the increased acetaldehyde level of the blood and symptoms connected with this increase (fall of the blood pressure, increased pulse rate, flushing of the face or body, etc.).

2. The assumption is made that antabuse provokes two types of symptoms: one as the result of increased blood acetaldehyde and the other probably as the result of anoxia. The latter is suppressed by the administration of ascorbic acid.

3. Ascorbic acid therefore would seem to be a valuable adjunct to antabuse therapy.

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# Psychology of the Masical Phrase "I Said I'm Sorry, Didn't I"

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A blocked writer, a woman of great potential abilities and high intelligence (who with the greatest regularity used her mental capacities against, not pro, herself and analysis) told me of an incident in her daughter's New York kindergarten: a girl displayed an orange which her father had picked in Florida and sent to her; a boy snatched the orange from her and ate it; when the boy brought another orange to school the next day and offered it as restitution, the injured party refused to accept the substitute. My patient concluded: "Full restitution is impossible; the sentimental value of the original is missing."

Observe your own reactions in the crowded subway when someone steps on your toe, turns around, and says "Sorry." You are in a quandary. Your adult, cultured self must accept the spoken apology as full compensation. Your infantile, less cultured self is furious and would like to kick the offender. This is only one horn of the dilemma; the other is even more disagreeable. If you dare make a disparaging remark ("Why don't you look where you put your big feet?"), the offender behaves as if you had transgressed against the most elementary rules of civilized conduct: "I said I'm sorry, didn't I?" Here the matter rests, on the Procrustean bed of convention.

The magic formula of restitution in minor offenses ("Sorry") seems to be based on an exchange mechanism. A small amount of narcissistic humiliation, included in the formula, is offered as full payment for the injury. The convention is necessary; without it people would hit, kick, and knock one another about constantly. Acceptance of the apology may be more or less graceful (although suppressed anger is always discernible); on the other hand, one may encounter inability to accept such an apology at all. What makes for the difference?

The difference is based on the urgent inner necessity—or the absence of that propelling need—to "collect injustices." In the former case, the real injustice is part and parcel of the inner personality structure, which is fed on injustices; in the latter case, the propelling need is not felt, and consequently injustices are shrugged off, minimized, evaluated as nuisances. In short, the identical injustice is intrapsychically elaborated in different ways.

The general formula has been stated as follows in my book *Money and Emotional Conflicts:**

"Relative *normalcy* is an automatic absorbing of unavoidable injustices, which are externally and internally rejected. This neutralizing attitude of 'making the best of it' does not lead to a slavelike

submission: one fights for one's rights at the exact moment when the struggle makes sense and has a fighting chance of success. The *neurotic* approach is exactly the opposite: an automatic seeking-out of avoidable injustices, and also a misuse of the unavoidable ones, turning them into tragedies instead of demoting them to nuisances. Both types of injustice are internally welcomed and sought out. The external rejection is not for the purpose of eliminating the injustice, but an ineffective pseudo-aggressive act to supply an alibi for the benefit of inner conscience. The latter, wise to the trick, has to be hoodwinked by alibis and pseudo-suffering. Hence, in pseudo-aggression, we find the choice of weapons, or method, or timing of the fight ineffective. These methods kindle the fire instead of putting it out."

It follows that these "injustice collectors" magnify trifles, not because these trifles are important per se, but because they fit only too well into the constant inner need to prove to one's own inner conscience that one is but the "innocent victim" of other people's "meanness."

This tendency to alibi oneself goes so far that even inanimate objects are utilized for that purpose.

A patient living on Fifth Avenue alongside Central Park would walk from his home to my office on Central Park West detouring for a stroll in the park. Since the efficacy of treatment was uncertain "in his mind," he informed me ironically, he wanted to get "something tangible" out of his visits; this certain advantage consisted of the benefit to his digestion conferred by the walk. Tactfully, I reminded this industrialist that his time was valuable, and that by walking to his appointment he was "throwing good money after bad," caricaturing one of his favorite phrases. In spite of his "refreshing walk," he would regularly arrive at my office in a depressed mood. One day he told me his reasons: time and again he would reach the corner opposite my office at the moment the traffic light changed to red forcing him to wait a full minute before he could cross.

"Do you assume that there is a conspiracy of traffic lights against you?"

"I wouldn't go that far," answered the man, also ironically. "I just take it as a sign of how everything works out against me."

"A bad omen?"

"Don't be flippant. I would say, rather, a confirmation of my pessimism."

"Isn't it interesting that you are overlooking, changing, even distorting facts to suit your purpose?"

"Prove it."

"That's simple enough. First, you overlooked the fact that the light at that corner is timed for half a minute on green, and a full minute on red. There is a good reason for this: automobile traffic is heavy, pedestrian crossings are light. What you don't admit to be a bad omen now reduces itself to the greater probability of arriving at the corner while there is a red light."

The patient exclaimed with some excitement: "You are misinformed, it is a fifty-fifty proposition! How do you know that it isn't?"

"Because I observed the same phenomenon, and looked at my watch."

"Don't believe it."

"Just use your watch. That was a fact you overlooked; here is one that you changed to suit your a priori deduction. If you remember, there is a little hill at exactly this corner of the park. To get to the street level one must go downhill. Approximately fifty feet before reaching the pavement, the traffic light comes into view. By regulating one's own speed, therefore, one can 'regulate' the arrival at the light. Is this also my fantasy?"

"Never observed it. It's true that one goes downhill. The light should be visible."

"Now for point three: you distorted facts by omitting the first and second observations only so that you could prove what you were out to prove, that 'everything is against you.' Not to mention the fact that pedestrians in New York pay little attention to lights, and are always crossing when the light is against them. But you stand at the corner like Lot's wife—a statue. To sum up: do you call all these omissions the objective evaluation of facts?"

"I have to check on your facts."

This the patient did and he had to admit to the accuracy of my statements. Next

[1]Doubleday, New York, 1951, pp. 17-18.

time, he shifted to some other "proof," more or less on the same level. A psychic masochist can only lose, since losing is his inner aim.

After the "injustice collector" has by hook or by crook (and mostly by some mental sleight of hand) constructed the badly needed confirmation of the meanness of the "bad mother" image of his infancy, the typical mood is one of self-pity. There exists but one exception: some of these neurotics show a rather ironic-sarcastic complacency, as if they were saying, "I knew all along that I'd be on the receiving end."

One such patient explained his mood by adducing a worn-out joke: on his deathbed, an old man describes to his sons the disappointments of his disappointing life; he concludes the recital by saying, "I would laugh if things are no better on the other side."

In short, these people behave as if a race in prediction, not in psychic masochism, were involved: although they end up behind "the eight ball" they knew it before the race began. *They seemingly accept defeat, but only on condition that they predicted the defeat beforehand.*[2]

These neurotic pessimists derive a peculiar satisfaction from *not* having been fooled: they have to assert their infantile megalomania. The typical psychic masochist is content with his unconscious creation of defeat, humiliation and self-damage. But the neurotic pessimist goes one step further: he wants to be a good crystal-gazer, too. In the clinical picture of *ordinary* phychic masochism this infantile megalomania is always included:[3] the defeat is accepted only on condition that it is inwardly self-created. The "train-schedule" is invariably the same. First, these neurotics provoke a person stronger than they are, or misuse a situation, until they are refused. Second, unaware of the fact that the defeat was self-engineered, and taking it as an unjust blow from the outside, they are full of indignation, and pseudo-aggressively fight (ineffectively, to be sure) against the self-created "enemy." Finally, they revel in self-pity and unconscious masohchistic enjoyment.

The "ordinary" masochistic technique is enlarged on by *neurotic* pessimists: here, the pleasure of being a good prophet is added.

Still another subdivision is the type which may be called "preventive pessimism." Here Fate (the inner conscience) is appeased by the expression of a pessimistic prognostication which is not seriously meant.

In the previously mentioned industrialist who was the innocent "victim" of traffic lights, we see a combination of both elements (though only in innuendo). At first he behaved like an innocent victim, although he had skilfully created the victimization himself. At certain times (e.g., when describing the incident to me), he claimed that he took the "misfortune" as proof that everything he touched turned against him. If he had ironically told this to himself, he would have acted like a typical neurotic pessimist.

The psychology of the phrase "I said I'm sorry, didn't I?" reduces itself to a magic pronouncement, which tells the victim, "You have to stick to your own hypocritical rules, even if you don't believe in them." At the same time, it includes *unconscious ironization of parental authorities,* from whom the child learned the civilized rules of civilized "restitution." That the "sentimental" damage allows for no restitution is exactly the masochistic complaint of the child. It is as though the "coldness" of the adult toward the child were embalmed in the magical phrase.

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[2]First stated in "The Psychology of Oral Pessimism," Imago 20: 330-376, 1934.

[3]For elaboration see "The Basic Neurosis" (*Grune & Stratton*, N. Y., 1949), and "Neurotic Counterfeit-sex" (*Grune & Stratton*, 1951).

# Neurological Clinical Pathological Conference

of the
Cincinnati General Hospital
CASE NO. 236528

## *Presentation*

A 34 year old colored man was admitted to the psychiatric ward on February 16, 1949 because of generalized tremulousness, difficulty in walking, and poor eyesight. He had enlisted in the Army in 1940, and during the subsequent three years developed what he termed generally as "nervousness." He would occasionally have difficulty in speaking. He claimed that the bright sunlight had injured his eyesight permanently. He had injured his back in an obstacle course to which he attributed persistently poor coordination of his legs. He was discharged from the service in 1943 because of neurosis, but was not allowed compensation.

He had been admitted to Veterans' Hospitals two or three times, where it was thought that he had hysteria with no physical disability. At the time of the most recent VA Hospital admission, physical examination revealed only staggering gait. A cerebrospinal fluid examination was said to have been normal, but details are not available.

Examination on admission revealed a well developed man displaying tic-like twitches of the face, arms and legs. The gait was staggering without lateralizing signs. Speech was indistinct with incoherent mumbling and stuttering. There was a spontaneous searching type of eye movement and questionable nystagmus on lateral gaze. There was no abnormality in mood or content of thought. The intelligence quotient was 77. After a course of hypnotherapy during which it was noted that the symptoms could be abolished, he was discharged on March 25, 1949. As far as could be determined his complaints had remained stationary during the period before and after he had first been seen in this hospital.

He was followed in the Psychiatric Clinic where little transference was obtained, the patient being more interested in getting additional relief money. The symptoms persisted. On several occasions his doctor watched him walk to the front of the hospital to note that the staggering would disappear.

He was seen in the Eye Clinic on May 27, 1949, where visual acuity was found to be 20/100 bilaterally. Extraocular movements were normal. There was coarse horizontal nystagmus which seemed to be controlled when he wished to fixate. The fundi were normal. Neurological examination on July 12, 1949 was essentially as before, except that the examiner felt that there was a tendency to fall to the left on testing for Romberg's sign. Four days later he began to act strangely; he became unable to recognize familiar objects and developed ideas of reference.

He was admitted again to the psychiatric ward on July 21, 1949. At this time he displayed marked agitation and flight of ideas. He was partially oriented and expressed delusions of persecution. There was sustained spontaneous lateral nystagmus with a rotatory component; these movements were increased by lateral gaze. There was no gross weakness or sensory deficit. Gait and coordination could not be tested because of the patient's agitation. The deep and superficial reflexes were hyperactive; the plantar response was flexor. Examination under anesthesia by three examiners revealed normal discs and vessels.

Postero-anterior roentgen plate of the skull was normal; the lateral views were inadequate for interpretation. Lumbar puncture under sedation revealed the pressure to be 190 mm. with relaxation described as good; after the removal of 7 cc. the pressure fell to 150 mm. No white blood cells were seen in the cerebrospinal fluid; the Pandy test was negative; the total protein was 22 per cent; the Wassermann was negative, and the gold curve 0133210000.

The patient refused nourishment and fluids, and became progressively more clouded, hyperactive, and exhausted. Fluid replacement was started parenterally, and he was given sedative hydrotherapy. On the fourth day his temperature rose to 103 degrees F, and on the next day to 106.2 degrees F. Physical examination showed no obvious cause for this. It was felt that the patient's fluid intake had been adequate. Ten cc. of paraldehyde intramuscularly was necessary for sedation during the night. At 6:00 a.m. on the sixth hospital day it was noted that he was sleeping though breathing with some difficulty. At 7:00 a.m. he ceased breathing.

## *Differential Diagnosis*

*Dr. Charles D. Aring:* I think you must have sympathized with the doctors who followed this patient from his hospital admission in February until his death in July; their diagnostic task was so much more difficult than ours. It is clear, I believe, that this man was thought to have had essentially a psychiatric disorder for which psychotherapy was attempted without success. It is also clear, since we are considering this case in clinical pathological conference, that there is likely to have been lesions in the nervous system.

To dispose of an unlikelihood first, we might mention that if this patient had been seen early in the course of his hospital career, we might have considered the diagnosis

of drug intoxication, and particularly by the barbiturates. These substances as you know, produce many of the symptoms and signs that this patient exhibited, notably the involuntary movements of fingers, eyes, and feet in the gait. Because this man was confined to the hospital continually for about six weeks from February 16 to March 25, it is unlikely that these symptoms would have persisted unless the drug that he had been using and which had accumulated in tissues was added to during his hospital stay, which while not impossible isn't likely. I think we can dismiss barbiturate intoxication from diagnostic consideration in this patient.

After due consideration I am of the opinion that this man died with multiple lesions in the central nervous system. Why he died may be much more difficult to explain.

Surely almost all the signs and symptoms that this man presented have been described at one time or another under the heading of multiple sclerosis. If reference be made to those two encyclopedic volumes of neurology by S. A. K. Wilson,[1] all the oddities of neurology will be found there. In one short paragraph (page 156) under clinical types he depicts what he calls the subjective or predisseminated type, a perfect description of our patient.

"Experience has led me to recognize what may be termed a 'predisseminated' type, whose symptoms are still chiefly if not solely subjective, and where a superficial though perhaps natural diagnosis is apt to be made. Complaints include paraesthesiae of this and that kind, 'losing the use' of a limb or limbs, giddiness, fatigability; perhaps also headache, imperfect vision, general shakiness. Examination discloses no single unequivocal sign of 'organic' nervous disease; heightened deep reflexes do not help should cutaneous be unaltered. But an abdominal reflex that can be tired, nystagmoid jerking, perhaps a few 'kicks' in the endeavor to elicit ankle clonus, and absence of defective antagonist inhibition in tests for muscular weakness, combine to arouse suspicion of a structural basis; and when with these the smiling cheerfulness emphasized above co-exists an early phase of insular sclerosis becomes probable. 'Formes frustes' of this kind are frequent in England, and numerous examples have been followed to a stage where diagnosis becomes certain."

I doubt if a better summary could be found of the final illness of the patient today under consideration.

It so happens that I saw a patient this week with symptoms quite similar to those of our case, a young woman of 30 or so who staggered alarmingly, who suffered from intense myasthenia-like fatiguability — she could hardly do anything without becoming exhausted—and who described a welter of subjective complaints. Yet in the physical examination little or nothing was found that could not have been due to emotional facts. In this instance we were saved by the bell, so to speak, she had a strong first-zone gold curve.

There are a few signs and symptoms in our case that I'd like to discuss since it is probable that the students are not particularly familiar with them and they won't get much help in their readings. You will note in the first paragraph of the protocol that there twice occurs the word, injured—injured eyesight and injured back. Injuries occur more frequently in patients with neurologic disease than in the general population. In this litigious era, there is a tendency to blame physical agents for unknown factors in disease, particularly where there is an element of compensation involved as there was in this patient. Usually in retrospect, injuries blamed for certain signs and symptoms, and we are put to it to determine whether the injury is primary to the problem or just another symptom. The latter is more frequently the case in neurology.

Now as to the bright sunlight injuring eyesight. Modifications of this complaint are not uncommon in multiple sclerosis, not necessarily associated with the sun but with other less brilliant sources of light as for example stage lighting or a highly lit room. I have not infrequently heard from patients that a brightly lit stage directly forward is particularly disconcerting, since they seem to be put at a visual disadvantage.

Another point to be explored is that of symptoms being abolished by hypnotherapy or hypnosis. This is a trap into which I don't believe we should allow ourselves to fall. Hypnosis is a strange and wondrous phenomenon, and much has been accomplished with it that cannot be explained physiologically with our present knowledge. To lean on it diagnostically is to ask for trouble. Doctor Stanley Cobb used to tell us about the hypnotized subject who could be made to weep out of one eye, and many

of us have seen patients regressed in hypnosis so that they would perform as they had years ago, even to the development of the Babinski response in a regressed, preambulatory state. Consequently, to depend on hypnosis is not a realistic diagnostic procedure; it is somewhat akin to the equally fallacious idea that the response to placebos can be simply interpreted.

In their written discussions of this case the students too frequently used the word malingering, some in a punitive fashion. I would caution that we tread carefully in this area, in fact I would even suggest that this term be dropped entirely in medical thinking. Malingering, like such concepts as the irresistible impulse and insanity is a figment of the legal mind attempting to evaluate a behavioral phenomena so that it may be explained on legal terms. Since such pseudo-measuring words are creatures of the law, we ought to leave them with those who believe that they understand them. As physicians we delve beneath the manifestation that they term malingering, to try to learn why, since it must be apparent that anyone who acts in such a fashion is ill.

As far as the cerebrospinal fluid findings are concerned, a large series of cases of multiple sclerosis have been thoroughly studied by Merritt,[2] who found the cerebrospinal fluid to be *entirely* normal in only 17 per cent. He noted that 28 percent showed mild pleocytosis, 24 per cent a quantitatively increased protein, 71 per cent had abnormal gold curves (25 per cent first zone, 22 per cent mid-zone and 24 per cent with a slight abnormality in the curve). Our patient had a few 3's in his single colloidal gold test, the cerebrospinal fluid was otherwise normal.

Where do mental signs fit into the syndrome of multiple sclerosis? We are finding more and more significant neurotic patterns in multiple sclerosis as our knowledge increases. Certainly this patient had signs that could be considered within the realm of neurosis to say nothing of psychosis. Psychoses have been reported often enough in association with multiple sclerosis, including paranoid and depressive symptoms; perhaps they represent caricatures of the pre-multiple sclerosis personality.

As far as the neuroses are concerned, Langworthy's[3] interesting study may be mentioned. He noted that it is frequently difficult at the time of onset of the first symptoms of multiple sclerosis to determine whether they are physiogenic or psychogenic. These patients are often emotionally immature. For good reason a diagnosis of hysteria is not infrequently made, as it seemed to have been made in our case, and later changed to multiple sclerosis as signs become more obvious. One should allow the possibility that conversion hysteria symptoms may jell into physical symptoms of multiple sclerosis. As Langworthy said, such a formulation would bring multiple sclerosis into the psychosomatic field. I think it is well to keep a completely open mind about the matter of etiology of this condition until we gather more evidence.

In thinking about the manner of death of this patient, we must consider the high temperature in this area in late July. We have seen heat stroke in people whose thermoregulating apparatus is not functioning properly because of cerebral lesions. One could postulate that this is the case here. His temperature rose from 103 to 106 degrees F; perhaps he was unable to get rid of body heat to the environment for a number of reasons. I found no evidence of infection in the protocol; perhaps bronchopneumonia may have occurred terminally as is frequently the case. The location of the main lesions in multiple sclerosis is in the white matter about ventricles. In this case it would seem from the signs and symptoms that lesions could be found in the cerebellum or tracts going to and from the cerebellum; however, I would not be surprised that the disease is, as always, widely disseminated in the central nervous system.

### *Discussion of Pathology*

*Dr. Murton R. Shaver:* The autopsy was performed 3½ hours post mortem and the general autopsy findings were essentially normal, aside from bilateral lobular pneumonia which was rather extensive, involving both lower lobes.

The brain weighed 1225 grams and superficial inspection revealed only some slight increase in the subarachnoid fluid which was tinged a reddish color over the vertex due

to slight effusion of blood. There was no flattening of the gyri. The convolutional pattern was normal and there was no evident shift of the midline structures as seen from below. The large vessels at the base were normal in structure and appearance, and there was no evidence of a cerebellar pressure cone.

Coronal sections made at 1 cm. intervals through the cerebrum and brain stem including the cerebellum revealed numerous small areas of discoloration, some of which were sharply demarcated from the surrounding white matter. These appeared to be most numerous in the region of the ventricular system, particularly in the parietal and occipital lobes. They measured up to 1 cm. in diameter and varied from gray to yellow in color. A number of these areas were found in the corpus callosum and in the brain stem in the region of the dentate nucleus on the right and scattered through the medulla. In some areas, particularly in the frontal region, after staining with La Masurier's stain for demyelinated areas, the areas of discoloration were seen to be almost confluent in the subcortical regions, and in some cases appeared to extend into the cortex.

Microscopic sections were prepared from blocks removed from parietal, frontal, and occipital regions including areas of discoloration in the subcortical white matter. A block taken through the corpus callosum was also studied together with the periventricular tissues in the region of the third and lateral ventricles. Sections were also taken from pons, cerebellum and medulla; all of these were stained with hematoxylin-eosin, phosphotungstic acid, cresyl-violet, Loyez and Bielschowsky stains. In some of the subcortical areas and also involving the cortex itself, there seemed to be complete loss of the neuronal elements. Lymphocytic infiltration was seen around some of the vessels in these areas, and occasional polymorphonuclear cells were found, particularly in an area in the corpus callosum. In some of the areas, a diffuse infiltration by lymphocytes appeared to be present in tissue adjacent to the vessels. In other areas, no relationship to vascular structures was apparent, but there was a diffuse loss of myelin as demonstrated by Loyez stain. The scattered myelin sheaths which still remained showed beading and swelling and fragmentation. In some of these areas, large numbers of compound granular corpuscles with vacuolated cyptoplasm containing lipoidal material were present. Phosphotungstic acid stain demonstrated gemistocytic astrocytes in some cases in large numbers. Bielschowsky stain demonstrated swelling and tortuosity of the neurofibrils in these areas, and in many cases these appeared to be diminished in number, although the state of preservation was better than that of the myelin sheaths. In areas showing the most marked demyelinization and degeneration of neurofibrils, compound granular corpuscles were seen lying around some blood vessels in addition to the small lymphocytes. The blood vessels themselves showed no inflammatory infiltration of their walls, although in the case of the smaller vessels and capillaries there appeared to be some endothelial proliferation. The vessels in areas away from these remyelinated plaques appeared normal aside from congestion of the vessels. There was no evident thrombosis or vascular occlusion.

Sections made through the basal ganglia revealed numerous areas which were poorly demarcated and in which there was diffuse increase in cellularity, the cells being mainly lymphocytes and occasionally swollen endothelial cells. In these areas similar cells were found lying in the perivascular spaces of the small vessels. Phosphotungstic acid stain failed to show any alteration in the glial cells in these areas, while Loyez stain demonstrated no significant changes aside from slight swelling of the myelin sheaths. Bielschowsky stain failed to demonstrate neuro-fibrillar degeneration.

Sections through the pons and cerebellum stained with hematoxylin and eosin demonstrated small areas of lymphocytic infiltration around some of the vessels and in the region around the fourth ventricle some of these were rather extensive. Some of these areas showed loss of myelin sheaths and to a lesser extent of the neurofibrils as demonstrated by specific stains. In some of these areas there was some proliferation of astrocytes, gemistocytic forms being present. On

the whole, these areas in the brain stem appeared to be much smaller than those found in the cerebrum. However, the perivascular infiltration with lymphocytes appeared to be scattered in many areas unassociated with any significant demonstrable changes in the adjacent tissue at these levels. The vessels themselves presented a normal appearance and showed no evidence of occlusion.

Sections through the medulla presented no significant microscopic abnormalities with the stains used in the previous sections except that around occasional vessels a few clumps of lymphocytes were observed. In one small area adjacent to the dorsal vagal nucleus there appeared to be some chromatolysis and distortion of the neuronal cells as shown with cresyl-violet stain and there was some proliferation of astrocytes and possibly early demyelinization of the adjacent tissue.

*Clinical Diagnosis*

Tumor in posterior fossa.

*Dr. Aring's Diagnosis*

Multiple sclerosis.

Bronchopneumonia. z

*Anatomical Diagnosis*

Multiple sclerosis.

Lobular pneumonia, bilateral in lower lobes.

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